International Journal of Mechanical and Production Engineering Research and Development (IJMPERD) ISSN(P): 2249-6890; ISSN(E): 2249-8001 Vol. 8, Issue 3, Jun 2018, 23-30 © TJPRC Pvt. Ltd.



# SUSTAINABILITY IMPACT ASSESSMENT OF DEVELOPMENTAL PROGRAMMES UNDERTAKEN BY MINING INDUSTRIES AS PART OF THE CORPORATE SOCIAL RESPONSIBILITY FOR VALUE CREATION

# BEYAT PRAGNYA RATH<sup>1</sup>, BISWAJIT DAS<sup>2</sup> & JAYANT KUMAR PANIGRAHI<sup>3</sup>

<sup>1</sup>Research Scholar, KIIT University, Bhubaneswar, India <sup>2</sup>Professor, KIIT School of Management, KIIT University, Bhubaneswar, India <sup>3</sup>Visiting Professor and Director, ICER, New Delhi, India

## ABSTRACT

The challenge for industries is to extend community programs that maintain the goodwill of the company and increase sustainability. The important aspect of any development program undertaken by the company should have a formal monitoring system backed up by a proper evaluation mechanism. The approach of the study pertaining to the mining zone is evaluated based and delved into the efforts of the mining industries in exclusivity, relating to the socioeconomic concerns pertaining to the building of the corporate brand. The case study is designed to deliberate on the initiatives and development programs that are taken by one of the leading mining company in Odisha. The Community development initiatives which offer health services by building hospitals, Infrastructure developments like building roads, building schools in the domain of education, supporting the small local business through procurement policies for local suppliers and sustainable livelihood projects serves the purpose of reducing economic dependence and creating employment opportunities. The findings suggest that the development initiatives taken by the company have a remarkable impact on the community surrounded by the industry.

KEYWORDS: Mining Industry, Global Reporting Initiatives, Sustainable Development & Community Development

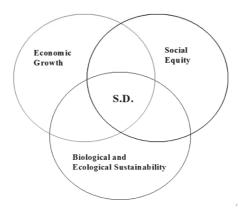
Received: Mar 14, 2018; Accepted: Apr 03, 2018; Published: Apr 20, 2018; Paper Id.: IJMPERDJUN20183

# **INTRODUCTION**

The Mining industry contributes significantly to the economy of India. Odisha has emerged as a key state with regards to the mineral and metal-based industries. The mineral belt is spread over an area of more than 6,000 sq km. Odisha is endowed with a variety of vast mineral resources. Therefore, the province occupies a prominent place in the mineral map of the country. Coal and iron ore mines alone employed 79% of total mineral sector workforce in 2014-15. Odisha Mineral Exploration Policy, 2015 is a contemplated advent of the mineral resources in Odisha. Mining Industry in Odisha is geographically located in remote places and it is labor intensive industry, even with improved mechanization. The case study of Rungta Mines, a public limited company in this study is situated in the district of Keonjhar which deals with the extraction and marketing of Iron & Manganese Ores.

## **Sustainable Development**

According to the Commission for Sustainable Development (1992), the achievement of sustainable development is not only dependent upon the sustainability of the environment and its natural resources, but also on the level of economic and social conditions reached by the people using the environment and its natural resources. Sustainable Development drives the society to adopt a holistic approach towards human well-being that ties economic progress, strong social bonds, and environmental sustainability together. Sustainable development in accordance with the sustainable development goals (SDG) should be the priority of each sector in India. Development backed by the creation of awareness should be the master plan of each company.



**Figure 1: Simple System View of Sustainable Development Source:** Authors Development based on the Bruntland Report (1987)

Human development cannot be singularly linked to economic growth and concepts like value, ethics, and quality of life are the cornerstones of development. Bruntland Report (1987) defines the three pillars of sustainable development as economic growth, social inclusion, and environmental balance. The pillars of sustainable development are therefore social inclusion, environmental balance, culture, economic growth.

## Sustainability Impact Assessment

A Sustainability Impact Assessment (SIA) has two key functions: (i) a methodological policy instrument for developing integrated policies which take full account of sustainable development dimensions, including crosscutting, intangible and long-term considerations, and (ii) a process for assessing the expected economic, social and environmental effects of policies, strategies, and programs before they have been formulated.

A large number of projects are being implemented by the company for the benefit of the community. Communities need must be given priority by continuous participation in community development projects rather than being an award of the boons of the company. There is a need to think of means of generating self-sustaining efforts so that the projects once initiated would go along and produce continuous benefits. Therefore, effective and sufficient participation of people is essentially required. The consensus is that if development is to be sustainable, it must be participatory and community-based. The development initiatives are based on the needs identified by local people by involving them in designing and implementation of the project using the principles and techniques suited to local conditions. The process includes all sections of the community, especially women, by the company.

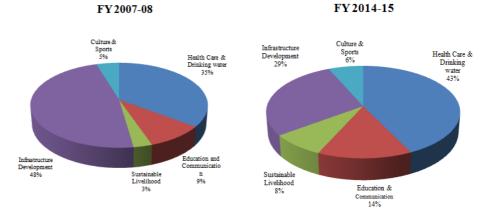
Sustainability Impact Assessment of Developmental Programmes Undertaken by Mining Industries as Part of the Corporate Social Responsibility for Value Creation Factors Influencing Participation

These are some of the factors which influence participation in the initiation of programs meant for the community associated with the mining or people residing in the mining belt.

- Convincing the people of the community about the importance of the program.
- Need for better planning with people
- Inviting the villagers for discussion before introducing the program
- Taking into consideration the needs of the people
- Awareness of the people about the schemes launched.

# **Holistic Views of Developmental Programs**

- Health Care & Drinking Water: which can offer health services to the villagers by building hospitals and health centers and providing necessary medical treatment of women during childbirth. These also include immunization program and providing ambulance service for patients to the hospitals in a nearby town in Joda. Awareness program on malaria and distribution of longlasting insecticidal nets along with the financial assistance for bedridden patients are also done by the company. These also include a weekly visit of Doctors to Jajang and nearby villages.
- Education & Communication: This includes monthly financial assistance to school teachers, financial assistance towards higher education to students, suppliers of ceiling fans to schools, supply of steel cut beds to I.T.Is Hostel building, supply of desks and benches to schools, financial assistance for celebration of the Book Fair, construction of physics and other labs in college in Joda, training to school teachers especially women so that they would be employable and sustainable. This also includes financial assistance to teachers in the villages of Jajang Panchayat for conducting coaching classes for school children after school hours.
- Sustainable Livelihood: This includes a contribution for upliftment of orphan children, contribution to the flood relief victims, plantation, providing sewing machines to Self Help Groups (SHG), monthly financial assistance to tailoring teachers, vocational training at Jajang Community Centers.
- Infrastructure Development: This includes electric wiring of community centers, renovation of ponds, construction of kalyan mandap at the villages, renovation of Anganwadi Kendra, a supply of transformer to Joribahal village for electrification, the supply of solar lights.
- Culture and Sports: includes distribution of cricket jersey to the cricket club formed, financial assistance to karate association, financial assistance to organize the football, baseball tournament, supply of sports materials & furniture to primary schools at Jajang.



**Figure 2: Holistic View of the different Development Programmes Source:** Website of Rungta Mines

The above two charts are about the holistic view of the different development programs from the year 2008 to 2015 which shows the percentage investment has increased. The above figure represents that the investment in health care and drinking water has been increasing over the years. It indicates that the community in the mining sector has an increase in awareness in health care, especially for women are more conscious about the hygiene conditions in their home and the environment improving their health conditions. Sustainable livelihood is the activities that are usually carried out repeatedly. For instance, a fisherman's livelihood depends on the availability and accessibility of fish. The above figure of sustainable livelihood represents that the investment made by the company is very beneficial for the villagers residing in the Jajang area. Graphical Representation of the different programs launched by the mining company over the last five years shows the trends in investment by Rungta Mines.

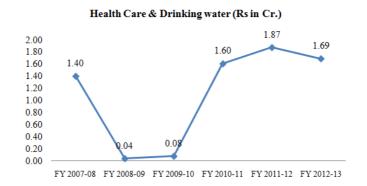


Figure 3: Trend of Investment in Health Care & Drinking Water for 5 years Source: Website of Rungta Mines

The above Figure 3, it depicts that the company has invested millions for the facilitation of proper health care and drinking water, which has increased over the years.

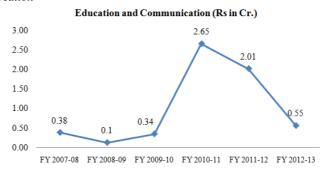


Figure 4: Trend of Investment in Education & Communication for 5 years Source: Website of Rungta Mines

In the above Figure 4, indicates about investments in education and communication over a period of 5 years. For sustainability, it is essential to ensure that an entrepreneurial start--up venture is also required. So the company also has delved into this idea too.

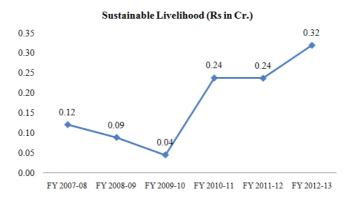


Figure 5: Trend of Investment in Sustainable Livelihood for 5 years Source: Website of Rungta Mines

The Figures 5 and 6, shows the investment pattern on sustainable livelihood and infrastructure development. These are the primary concerns for sustainability. The company has invested significant amount for the sustainable livelihood of the community over the years, whereas investment in Infrastructure has declined in last 2 years.

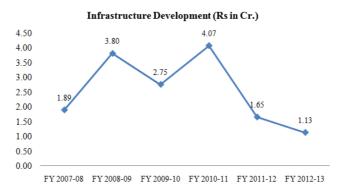


Figure 6: Trend of Investment in Infrastructure Development for 5 years Source: Website of Rungta Mines

The Figure 7 indicates that in the area of culture and sports also the company has given significant importance for the communities residing in the vicinity.

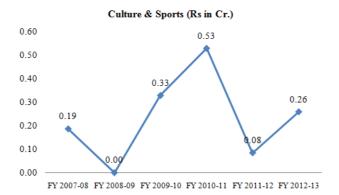


Figure 7: Trend of Investment in Culture & Sports for 5 years Source: Website of Rungta Mines

## **CONCLUSIONS**

Sustainable development of any program launched, development of ownership and responsibility for a program among the community members is of utmost importance which creates a feeling of possessiveness. In order to triumph in development programs, the social audit process must be improved and the effectiveness of sustainability must be measurable and transparent. A successful and sustainable corporate strategy must include assessing and address the basic rights and needs of the community and allow the members of the community to participate effectively in the decision-making process. Fairness and transparency should be maintained during the distribution of the benefits. Gender-equality and women empowerment are the two major aspects of sustainable development. These programs helped women, families, children, students establish themselves and has brought a positive change in the community.

The Company has brought about radical changes in the society with complete coherence to Global Reporting Initiatives (GRI). To evaluate the outcome of different development programs for women taken by the company, the impact assessment is done as per the requirements by the Mines Act 1952 and the outcome is measured by the occupational health report which is done periodically. The occupational health survey (Initial and Periodical Medical Examination) and the occupational health impact assessment are measured. A total of 20238 workers, including male and females of mines with age group of 18-60 years were undergone with the medical examination during the health assessment camp in different mines site of Joda, Barbil & Jajang area.

### REFERENCES

- 1. Alagh, Y.K., Kashyap S.P., Morthy (1984). Policy Modelling for Planning in India. The Modelling of Socio-Economic Process. pp. 5887
- 2. Bisoyi B., Das B. (2018). An Approach to En Route Environmentally Sustainable Future Through Green Computing. In: Satapathy S., Bhateja V., Das S. (eds) Smart Computing and Informatics. Smart Innovation, Systems and Technologies. vol:77.
- 3. Bisoyi B., Das B. (2016). Necessitate Green Environment for Sustainable Computing. In: Satapathy S., Raju K., Mandal J., Bhateja V. (eds) Proceedings of the Second International Conference on Computer and Communication Technologies. Advances in Intelligent Systems and Computing. vol: 380
- 4. Bradshaw Ben, McElroy Caitlin (2014). Company-community agreements in the mining sector, Critical Studies on Corporate Responsibility, Governance and Sustainability, Volume 7, Emerald Group Publishing Limited, pp.173-193

- 5. Fonsecaa Alberto, McAllister Mary Louise, Fitzpatrick Patricia, (2014). Sustainability reporting among mining corporations: a constructive critique of the GRI approach. Journal of Cleaner Production, Volume 84,Pages 70-83
- 6. Panigrahi, J.K., Tripathy, S., Das, B. (2017). Thematic Analysis of Service Innovation Taxonomy within Supply Network, Creating Value for the System. International Journal of Mechanical Engineering and Technology; 8(9), pp. 57-69
- 7. Rath, Beyat Pragnya. and Das Biswajit (2016). Neo-dynamics of New Economy: Woman Participation in Top Leadership: An Indian Perspective, Management Practices for the New Economy, Bloomsbury India
- 8. Krishnaiah, V., G. Narsimha, and N. Subhash Chandra. "A study on clinical prediction using Data Mining techniques."

  International Journal of Computer Science Engineering and Information Technology Research (IJCSEITR) 1.3 (2013): 239-248.
- 9. Rath, Beyat Pragnya. and Singh, Shikta. (2017). Women Entrepreneurship in India: A Path to Emancipation and Economic Empowerment through fight for change, Third International Scientific Conference, ERAZ 2017, Knowledge Based Sustainable Economic Development, Conference Proceedings.
- 10. Rath, Beyat Pragnya. Panigrahi, J. K. and Das, B. (2018). Community Relations by Industries as a Part of Social Responsibility and Social Value Creation: an Empirical Case Analysis. International Journal of Mechanical Engineering and Technology; 9(3), pp. 711-718
- 11. Recent Developments in Certain Aspects of Indian Economy, International labour organisation. Vol. III, 1957, p. 104
- 12. Santhanam M.L. (1985). Strategies of Organising the Poor for Development. Partnership in Progress Issue II, Calcutta, Luthem World Services
- 13. Sarkar A.N (2013). Review of Strategic Policy Framework for Re-Evaluating CSR Programme Impacts on the Mining-Affected Areas in India, International Business, Sustainability and Corporate Social Responsibility Advances in Sustainability and Environmental Justice, Volume 11, Emerald Group Publishing Limited. pp.217 261
- 14. www.orissaminerals.gov.in/Accessed on 05.02.2016
- 15. www.pmindia.gov.in Accessed on 01.09.2016
- 16. www.rungtamines.com Accessed on 18.09.2016